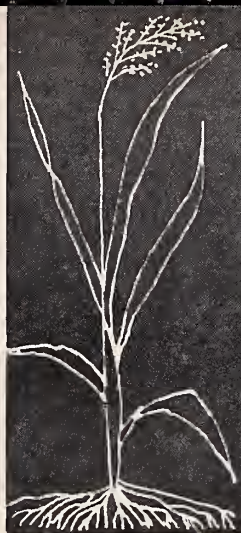


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Efficiency in Marketing,
Distribution, and Utilization



EXTENSION SERVICE *Review*

NOVEMBER 1959



EXTENSION SERVICE *Review*

Official monthly publication of
Cooperative Extension Service:
U. S. Department of Agriculture
and State Land-Grant Colleges
and Universities cooperating.

The *Extension Service Review* is for Extension educators—in County, State and Federal Extension agencies—who work directly or indirectly to help people learn how to use the newest findings in agriculture and home economics research to bring about a more abundant life for themselves and their community.

The *Review* offers the Extension worker, in his role of educational leader, professional guideposts, new routes, and tools for speedier, more successful endeavor. Through this exchange of methods, tried and found successful by Extension agents, the *Review* serves as a source of ideas and useful information on how to reach people and thus help them utilize more fully their own resources, to farm more efficiently, and to make the home and community a better place to live.

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EAR TO THE GROUND

One word—audience—comes up in almost every discussion about extension programs and methods. Who is our audience? Who are we trying to reach with our information?

This is perfectly natural, of course. We can't select the best channel or method for reaching an audience if we don't know who they are.

This word audience is particularly significant in extension marketing work. Marketing farm products is an intricate process. And the people at each step of this process represent a different audience for extension educational work.

Take potatoes for example. Today we can go to the supermarket and buy potatoes in a variety of forms—whole, instant flakes, frozen French fries, and even mashed as part of a complete frozen meal. These potatoes pass through a lot of hands from the time they are harvested until they reach the dining room table.

Obviously, no one person can keep up with the latest developments in every phase of potato marketing. So a team of extension workers has to keep up with these developments and bring the information to the proper audience.

Extension has been engaged in marketing educational work for a long time. In recent years, this work has broadened to cover the whole marketing process—every step in moving goods from the producer to the consumer.

In a way, these last few years have been like a "shakedown cruise" for a new ship. Every new ship is taken on a test run—to see what it can do and what changes need to be made, as well as to familiarize the crew with the equipment.

As Extension moved into this broader marketing program, we had to see what methods worked best and what changes had to be made. And we had to get Extension's crew familiar with what this new ship can do. We know, for example, that it takes specialists in several fields to bring information to the many different audiences. Just as it takes a crew of specialists to run a ship, it takes a team of highly skilled specialists to operate a marketing program effectively.

Throughout this issue, you'll see examples of Extension's crew performing their different tasks. Together, they are helping to improve efficiency in marketing farm products.—EHR

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THE SCOPE OF MARKETING



by C. B. RATCHFORD, *Director of Extension, Missouri*

THE modern marketing system is a recent phenomenon. Not many years ago most of the marketing of farm products was performed by the farmer. Today, most of the marketing is performed by thousands of highly specialized firms.

The marketing system also makes up an increasingly larger share of the total economy. This is due to marketing firms taking over functions formerly performed by farmers or consumers.

When most marketing was done by farmers, county agents provided valuable educational help in solving marketing problems. With a few notable exceptions, Extension did little work with the firms that gradually began to take over a larger share of the marketing functions.

Following passage of the Agricultural Marketing Act in 1946, Extension began to look seriously at the scope of marketing and its responsibilities in that field. These investigations resulted in the State Extension services, with the help of the Federal Extension Service, beginning marketing programs with consumers and with all sorts of marketing firms. Efforts at the farm level were also intensified.

The Job Ahead

Experiences of the last 12 years have helped clarify Extension's responsibilities in marketing. And they have provided valuable information on how the job can be accomplished.

Extension's responsibilities in mar-

keting, distribution, and utilization include:

- Providing information to 4.5 million farmers to help them with decisions of what, when, where, and how to market their products. This includes consideration of the role of cooperatives in the improvement of agricultural marketing.
- Helping more than 1 million firms to increase their efficiency and improve their products through the use of research results. These firms have both economic and technical problems. Every kind of skill or knowledge included in the traditional extension staff, plus many others, will be needed to help solve these problems.
- Providing consumer families with information about quality, quantity, grades, supplies, and prices of goods, to help them decide what agricultural products to buy and when to buy them.
- Helping to develop a marketing system in which each service is performed efficiently and "signals" are carried quickly and accurately through the system from consumers to farmers and from farmers to consumers.
- Encouraging adequate competition to insure gains being distributed throughout the economy.
- Acquainting clientele with various other marketing services available—market news reports,

facility loans, inspection services, sales under Public Law 480, grading services, and many others.

This is a tremendous job, in terms of both clientele and range of subject matter. The clientele includes all farmers, marketing firms, and consumers. Scope of subject matter includes all disciplines traditionally included in agricultural colleges, plus many disciplines from other schools.

Extension has always done a creditable job of helping farmers with their marketing decisions. In recent years, considerable emphasis has been placed on consumer marketing. Aid to marketing firms and the marketing system need additional emphasis.

Getting the Job Done

Fundamentally, Extension's responsibility in marketing will be accomplished in the same manner as work in other program areas. In a highly-simplified form, the job in marketing is accomplished through helping the clientele—farmers, marketing firms, and consumers—use the results of economic and technical research. These results are made available within a problem-solving framework.

A number of states have shown how to successfully conduct extension marketing programs.

Teamwork of a number of specialists is necessary to solve broad marketing problems. Specialists already on the staff may need help from ex-

(See *Scope*, page 238)

A DECADE OF PROGRESS

by M. C. BOND, *Director of Extension, New York*

IN appraising the educational work in marketing done by the Cooperative Extension Service during the past 10 years, one is impressed by the increased activities aimed toward consumers, firms, and persons engaged in marketing farm products.

Although farmers continue to look to Extension for dependable marketing information, many are performing fewer marketing functions as their businesses expand and become more specialized. Marketing is usually left to a cooperative or to others.

Food processors and packers, chain stores, and consumers are becoming increasingly particular about the size, shape, color, condition, variety, and type of farm product they buy. These and other factors are of real concern to the producer.

Extension programs have been developed to bring about a better understanding between farmers and millers, processors, ginners, packers, etc. They include demonstrations of grades and standards, made possible through cooperation with State bureaus of markets and State-Federal inspectors. Some of these educational activities have brought about changes in grades and standards and other types of purchase specifications.

New Areas

Relatively new fields for extension marketing work are educational programs for consumers and work with individuals and firms processing and retailing farm products. The methods used with these two groups differ.

Mass media—press, radio, television, and newsletters—are widely used in the marketing educational program for consumers. Specialists and county workers prepare and present information which will help consumers buy more intelligently. This program is aimed at understanding

variations in supply; selection, care, and use of products; and a better understanding of the marketing system.

Home demonstration agents participate in localizing marketing information prepared by specialists. Many regularly provide information for the local press, radio, and TV. County agricultural agents frequently participate when locally produced farm products are receiving attention.

Direct Approach

Educational work with retailers and wholesalers requires personal contacts and demonstrations. Although the results of more and more research are becoming available, the operators of retail and wholesale businesses do not readily understand the results or know how to interpret them in relation to their own operation.

Successful extension work with proprietary marketing firms requires a willingness to approach the problems from the firm's point of view rather than from the point of view of "society" or "agriculture." Many extension workers are so accustomed to one or the other of these approaches that they find it difficult to accept the new approach.

The new orientation, however, does not conflict with the old, for many of a firm's problems are common to the field of farm marketing in general. Unless the extension worker looks at the problems from the firm manager's point of view, he will have little opportunity to introduce new ideas.

One effective way of carrying on educational work with this group is by demonstrating the application of research results in a retail store or wholesale warehouse. To do this, the marketing specialist or agent must have special training and a good understanding of the business operation. Persons engaged in this phase of mar-

keting are eager to apply the results of modern technology when they understand the application.

Training of personnel responsible for handling perishable farm products is a concern of all firms engaged in this business. Publications and other materials that can be used by store operators and supervisors in training produce, dairy, and meat department employees are of increasing significance because of the rapid turnover of employees in these departments. Firms also appreciate help in developing training schools and obtaining teachers who can instruct in human relations, personnel management, inventory control, and similar areas.

Changing Practices

Some unusual educational work has been done with processors. Many new products and processes have grown out of the research work done at the regional utilization laboratories of USDA. Extension specialists have helped interpret the results of this research to firms which process and manufacture agricultural products.

Tremendous changes have taken place in packaging farm products during this 10-year period. New packaging materials and changes in the kind and size of packages called for extensive research with the help of specialists in several fields.

With the help of the land-grant colleges, USDA, and State bureaus of markets, Extension has moved toward a much more complete and effective educational program in marketing. Much is yet to be done. To make food and fiber available to consumers as they want it calls for the best possible use of new knowledge by all who may be involved—farmer, processor, manufacturer, wholesaler, retailer, and consumer.

The County Agent's

Role in Marketing



by PAUL O. MOHN, *Federal Extension Service*

WHERE do we fit into an educational program with marketing firms? This is a question frequently raised by county extension workers. And there is no pat answer. On the other hand, the question should not be evaded.

There is no question as to the county agent's role in working with farmers on questions of what, where, when, and how to market. The county staff formally or informally "cranks" marketing into its overall program with producers and homemakers.

Some say that by and large this should be the extent of county staff activities in marketing. Several arguments are used in this behalf. Perhaps two of the most common are: most marketing firms do business in more than one county, so work with them must be carried on by folks who can operate in a more compatible geographical atmosphere; and county staffs usually do not have the background and training required for highly specialized marketing work with firms.

There are some phases of market-

ing firm work that county staffs should be expected to handle. This includes working with firms in developing 4-H marketing projects and work with shipping point firms in organization and operational efficiency. Whether work is undertaken in this latter respect depends to a considerable extent on the amount of specialization of the county staff member.

There are many jobs to be done. County staffs are pressed to conduct educational programs in a multitude of fields. Marketing work with firms is just one of these fields.

Extension programs with firms marketing agricultural products have been given impetus only during the last decade. The Research and Marketing Act of 1946 provided funds for greater emphasis upon marketing. Opportunities were recognized to improve overall efficiency in agriculture by working with marketing firms as well as educational programs in marketing with producers.

The demand by marketing firms for extension educational programs has created problems of staffing. Some

States have, in fact, experienced difficulty in staffing even at the specialist level with the discipline and training required to do a competent job.

Administrators must allocate scarce resources of State and county personnel among many alternatives. And each county staff member has responsibility for allocating his time within his scope of responsibility. Each is expected to make his contribution where he can do so most effectively.

For example, it seems illogical that a State soils specialist would work directly with a farmer in demonstrating soil sampling procedure. This is a task most county agents are fully competent to do.

Sharing Jobs

When it comes to assisting an apple processing plant in materials handling, it doesn't make sense for the county agent to develop competencies in this field since he may have few such processors in his county. A State or area specialist, on the other hand, could justifiably develop such competencies since there may be quite a few apple processing firms scattered throughout the State.

In some cases agents with specialized training and interest in marketing can make significant contributions to extension marketing programs with firms. In many instances they tie in with firm marketing programs to complete Extension's overall educational responsibility.

In the case of the apple processing operation, for example, changes in packing house operations may result in changes on the farm. Here the county agent helps interpret these processing changes and their implications upon production.

There is an increasing interest in marketing problems beyond the farm gate. County workers in several States requested, and received, in-service training on marketing. In some States there are trained marketing people on county staffs, just as in some counties there are trained entomologists, soil scientists, nutritionists, and administrators. Some counties

(See *Agent's Role*, page 246)

Add A New Dimension

by L. T. WALLACE, *Agricultural Economist, Indiana*

A COUNTY Rural Development committeeman asked, "What do we have to sell that people will buy?" Another answered, "Let's get the facts and find out!" These illustrate the purpose of the Rural Development Program—to stimulate local people to intensify their efforts to identify and solve their community's problems.

In effect, Rural Development groups are market analysis committees. Their main problem is: how to help underemployed people find a more profitable market for their labor.

The objective of this sweeping marketing effort by these fact-finding groups is to help underemployed farmers put more dollars in their pockets while helping them make their area a better place to live.

Rural Development uses a new, comprehensive approach to achieve these goals. It is not more of the same old thing. And it does not involve a duplication of extension marketing activities. Rather, it expands these activities.

Check Economic Situations

The economic problems facing people in areas designated low-income include more than farm production and marketing. Economic development of these areas may come about through some other route than agriculture.

These areas are characterized by unemployment as well as underemployment. Physical and capital resources are too few when combined with the human resources to afford local people a satisfactory income.

Sometimes the area's labor income can be increased by a better functioning of existing market institu-

tions. More complete and more widely distributed job information through employment offices is an example. Sometimes a modification of the market institutions is necessary. Local Rural Development groups are such a modification.

Recognize Resources

How can these groups analyze a county for its market potential? First they must find out what it has to sell. Then they must think of ways to sell it profitably. And finally they must develop new resources and products for their market.

For instance, some southern Indiana counties are developing a market for scenery. Three county Rural Development groups decided their most plentiful resources were hills, dales, and streams. This meant the recreation industry had the most immediate labor marketing potential.

They formed a tri-county committee, which has more influence than the sum of separate groups. This group was able to speed up plans for an 1100-1200 acre lake.

Expert Advice

At some stage in their market analysis, county groups need technical assistance. Many outside agencies worked with the tri-county committee to provide information on water development and the tourist industry. The Soil Conservation Service, State Department of Parks and Conservation, Army Engineers, State Department of Forestry, Recreation Department of Indiana University, and Extension all contributed.

In another county outside help was used to analyze the potential of laying flocks. Purdue poultrymen helped

prepare a publication that explored the profits of different egg production methods—including the alternative of staying out of the egg business entirely.

After the analysis, the county group encouraged a local feed dealer to develop both the market and production of quality eggs. Weekly marketing rose from 15 to 200 cases.

Marketing Labor

The same analytical techniques can be used in developing an off-farm labor market for farm people. Competition for industries is keen in the nation's more industrialized areas. So, local Rural Development efforts must be channeled to the most likely industrial prospects rather than all industry.

What products and resources a county has to sell can be determined in several ways. One southern Indiana county surveyed 94 percent of its population to get facts on labor force potential, composition, and health. Over 350 men and women from county health organizations and home demonstration clubs carried the questionnaires to almost 8,000 people. Another county obtained facts on labor availability and skills from over 13,000 people.

All Rural Development counties have information on transportation, taxes, sites, raw materials, utilities, housing, schools, etc. These economic and noneconomic factors affecting industry's location decisions are released to interested manufacturing firms. One group's use of this type of analytical marketing approach resulted in a shoe firm locating in the area and employing 400 people.

Education is an integral part of an area marketing analysis. School reorganization to improve facilities and curricula offerings help not only this year's graduates but future generations as well.

If you want to help your people discover what they have to sell and the most profitable ways to sell it, develop a total county marketing effort. Much as a business firm uses market research, your county can create a market analysis group to investigate both farm and nonfarm opportunities. It will add a new dimension to your marketing work.

Followup With Co-ops

by **STUART BRABANT, Henderson County Agent, Kentucky**

OVER the years, extension workers have found many different ways to work with farm cooperatives. Techniques and methods depend on the area, the co-op, and the need.

Farmers often need help in starting a co-op. And lending such aid is an important function of extension workers. But the co-op may also need followup assistance. Our experience with a soybean cooperative illustrates the importance of followup.

In the late 1930's, soybeans offered an alternative cash crop to corn in the Ohio River bottomland. But this crop was fairly new and there wasn't a local market. Local farm leaders, meeting with extension farm economics specialists, felt that a farmer-owned soybean mill would increase interest in soybean production and furnish a market for beans in 15 or 20 counties.

Early Success

Conferences among farm leaders, specialists, and lending agency officials resulted in organization of a cooperative in 1940. The county agent participated in these meetings and helped arrange a trip by farm leaders to a soybean mill in Illinois.

The co-op got off to a good start. World War II brought good demand for beans and good prices. Growers and the cooperative prospered.

This went on until about 1950. Then for a 3-year period the mill did not make profits and did not pay

dividends. Competition became more aggressive and some members sold their beans elsewhere. Rumors spread that the mill was losing money, that it might go under, that management practices and policy decisions had caused the trouble. Members began to talk about "the mill" instead of "our mill."

For about 5 years prior to this time, the county agent had felt that the mill was doing well and probably needed no further special educational help. Such was not the case. More work was needed.

In 1956 the county agent arranged a meeting of farm leaders and mill officials. Facts brought out were helpful in stopping rumors. Several such conferences were held during the following year, with the county agent and an extension specialist assisting.

Following these conferences, the board of directors arranged for State and Federal marketing specialists to study the mill's operations. Their analysis was presented in a series of district patron meetings in September 1957.

Improved Relations

As a result, the mill obtained much better understanding from its patrons and, therefore, much better public relations with them. At the same time, the management began to change operational policies for efficiency. With farm leaders looking after their business more closely, the mill came "out of the red."

Dividends were paid on all stock in 1958 and 1959, and a strong price structure was provided for beans during this time. Through good management, the mill "made competition." Volume of beans milled rose from 750,000 bushels in 1956 to 1,250,000 in 1959.

The mill is also providing a more integrated business for farmers. Formerly, beans were milled and oil and meal sold. Now much of the meal is mixed into protein supplements and sold.

At the present, the mill is in sound financial condition, membership relations are good, rumors are nonexistent, and folks talk of "our mill" instead of "the mill."

In 1955, a permanent test plot was

set up in the county to run variety, fertilizer, and weed control tests, and obtain other production data. The mill has a leading part in this test field.

Each fall a field day is held at the plots for farmers in the area. Lunch is furnished by the cooperative and another mill in the area. Attention is focused on beans—outlook, production methods, marketing.

All this has resulted in improved production management. Last year Henderson ranked first in the State in soybean yield per acre.

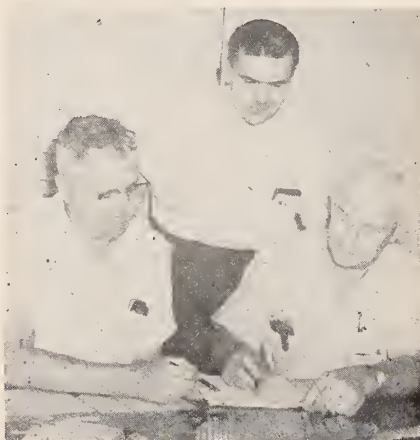
Everyone Gains

One of the first principles of good marketing is to grow a crop for which there is an active demand and for which the land is well suited. Soybeans fit that description in Henderson County.

Working closely with the mill management, the county agent gets much help on soybean production problems. The mill, in turn, gets closer to its patrons. All this has resulted in an improved soybean industry in the county.

Farmers own a soybean mill which is making money. The mill, in turn, furnishes a strong, competitive cash market for their beans and bean storage in a bonded warehouse.

Yes, the followup is important in working with cooperatives. Educational work needs to be done with the management and the patrons. With encouragement, they will solve their problems.



Annual report of soybean co-op is discussed by co-op officials and Agent Brabant (right).

The Team Approach

by THEODORE W. LEED, Marketing Specialist,
Massachusetts

THE team approach has enabled Massachusetts extension workers to develop an educational program to help food marketing firms operate more efficiently.

The problems encountered by these firms cover several subject matter areas. Technical problems include food processing, materials handling, plant layout, equipment needs and utilization, work methods, packaging, and quality control. So an effective educational program with the firms requires competence in economics, marketing, food technology, engineering, and the commodity fields.

The objective of our extension program with food marketing firms is to promote more efficient processing and distribution of food products. To do this, we had to determine the problems that existed and the subject matter competencies needed to help solve them. The final step was to provide the means for utilizing the competencies of the extension staff most effectively.

To make a significant contribution to more efficient food distribution, Extension had to develop an educational program that provided both technical and management assistance to food marketing firms.

Team Lineup

Using existing organization and methods, Extension could not provide a total educational program to cope with the complex problems of modern food distribution.

So the marketing firms team was organized. This team provides a coordinated, interdisciplinary educational program for food marketing firms. It is composed of two food mar-

keting economists, a food technologist, a food engineer, and a horticulturist. One economist is the project leader, responsible for subject matter contribution and coordinating team efforts. Other College of Agriculture and Business School staff members help when needed.

The Associate Director of Extension is responsible for administering the program. In addition, an advisory committee of three department heads helps direct the subject matter content of the program.

Each year the team and advisory committee decide the major problems facing the State's food marketing firms and where the greatest contribution toward improving marketing efficiency can be made. The response of the food marketing trade, the special competence of the team, and the fund of research pertaining to food distribution also influence the yearly objectives.

During the first 2 years the team has concentrated in food processing and retailing. A current project with a large retail chain illustrates how the team operates.

This firm requested help in improving fresh produce and frozen food operations and in developing a personnel training program. A thorough analysis was made of retail produce and frozen food operations with each team member assigned a specific job.

This project included analysis of product turnover, gross margins, expenses, man-hours, labor productivity, spoilage, sales performance and other operating data, receiving methods, product flow, materials handling

methods, trimming, packaging methods and materials, merchandising, customer traffic flow and purchasing patterns, and management practices.

Report to Management

Each team member made recommendations for improvements. Then we prepared a single report to improve the operating efficiency of the frozen foods and produce operations of the chain.

The report was presented to top management of the chain by the entire team. Scale drawings, photographs, and movies were used to illustrate problems and suggest solutions.

The report was accepted by management and plans are now in progress for implementing suggested changes. Such a program which reaches policy-makers of multimillion dollar retail organizations should result in immeasurable improvements in food retailing in the long run.

The same technique is used with other types of retail food organizations. There are several instances where improvements can be measured quantitatively.

The success of any educational program can be measured, in part, by its acceptance. This program for marketing firms in Massachusetts has been enthusiastically accepted by processors, wholesalers, and retail organizations.

This acceptance is attributed to the
(See *Team Approach*, page 246)



Marketing firms team in action.

Help for the Middlemen



by **GEORGE M. ENGLAND**, *Food Merchandising Specialist, Illinois*

NOWHERE in the marketing field are changes more pronounced and more vital to our economy than in the field of food distribution. More than 26 percent of typical expendable family incomes are spent on food. This fact deserves much consideration, especially in view of the present continuing rise in the cost of living.

Many changes have taken place in the past 10 to 12 years of extension food marketing programs. In the beginning, the marketing specialist conducted schools for food wholesalers and retailers to teach skills of trimming and displaying vegetables. Today extension workers consult with top management on the most efficient methods of operating the entire retail or wholesale operation.

Type of Assistance

The Illinois extension retail and wholesale marketing program was reactivated in 1957. Illinois has many national chains, cooperative independent food chains, small interstate chains, as well as many large non-affiliated independent supermarkets. So a considerable amount of time during the first year was spent making contacts and explaining services available to retailers and wholesalers.

The acceptance of this program by the food trade has exceeded all expectations.

Some work with retailers has covered operational efficiency studies, store layouts, specialized accounting, customer flow studies, inventory controls, buying, personnel problems, etc.

Many times the problems bothering the retailer are not under his control. The solutions to some may be found at the warehouse.

For example, with one group of stores some problems stemmed from the fact that truck deliveries were made at an inconvenient time. Back-room storage areas were poorly organized, due in part to overstocking, and resulting in multiple handling and inefficiencies.

These problems could only be solved by working with the warehouses, too. Since the trend in the food retailing has been toward larger sized markets with fewer outlets, more work has been done with individual firms supplying these outlets rather than individual stores.

Only in the case of an independent store does an analysis of the operation remain with just one store. In all other cases it is given to store owners and warehouse owners. Any material advanced in the report is available to all retailers within the group.

Many Uses

Warehouse owners use these reports for advanced training of store supervisors, store designers use them in designing more efficient stores, and warehouse supervisors use them for improving store deliveries.

The importance of working with both the wholesaler and retailer in order to correct inefficiencies cannot be overemphasized. In this way many inefficiencies can be remedied as the

result of one analysis. Today many wholesalers do all the store advertising, store planning, store financing if necessary, personnel training, and store supervision.

In our program, we work closely with distributors as well as retailers. The average analysis of a retail operation takes about three weeks. It usually consists of grocery, meat, produce, dairy, and bakery departments in the selling area. The back-room analysis consists of produce, grocery, meat work and storage areas. Blueprints are included in the report to show areas before and after recommended changes.

When the analysis is completed, we sit down with top management to discuss problems and recommendations. Many times slides and motion pictures are used to emphasize recommendations. Then copies of the report are left with management.

Following Through

The final job is to follow through and see if the recommendations are used or if help is desired in carrying these out.

Several hours are spent with the warehouse management to explain the problems set forth in the retail analysis. Then store supervisors who work out of the warehouse have firsthand information they can use throughout their territory. This approach has netted wonderful results both at the warehouse and retail levels.

As an example, one chain revised an ordering system in all its stores in dairy, meat, frozen food, and produce. They also are using the revised layout recommended by the marketing specialist for newly planned stores. Delivery schedules for the warehouse to stores have been changed to the advantage of both.

Work with one of the cooperative store groups has netted the following results. Newly built stores of this group of 130 stores are adopting many recommendations set forth in a store analysis. Rearranging the grocery backroom layout according to recommendations has reduced the time spent in unloading groceries. Backroom produce work areas have been rearranged and new equipment in-

(See Middlemen, page 247)

From the Retailer's Viewpoint

by EDGAR L. SCHROER, Director of Store Operations,
Economy Food Center, Inc., Indiana

Like most small chains, we operate on a narrow margin. Labor expense accounts for about one-third of our total expenses. We employ 236 people to operate our 7 stores and 20 to operate the warehouse.

Funds available for training and personnel development are always limited. And we can't retain a store operations man to study and remedy problems in equipment and layout.

So, it is my job to head all of these functions—personnel operations, training, and general trouble shooting. You can rest assured that I, like most store operations men, depend on much outside assistance.

Reliable Source

One major source of information and one which we have come to rely upon is the Extension Service.

The monthly publication, *Purdue Retailer*, keeps us current on research and trade information. It stresses such subject matter as financial analysis, store layout, incentive plans for personnel, and work scheduling.

This year our store records were used in the Business Summary of Independent Food Stores. Purdue assembles operating data from a 100-store sample every 2 years. This not only projects trends in Indiana retail stores, but variations in income, expenses, departmental sales and gross margins, labor utilization, and physical organization for stores of different sales volume. And it points out why some stores make more money than others.

Each spring Purdue holds a food retailer clinic, a statewide meeting beamed at management. We always send a delegation and they receive much valuable information. Upon returning, these men report their impressions at statewide meetings.

We recently cooperated with Extension on a study of produce depart-

ment operations. This educational approach brought us a system of operating our produce departments at reduced cost and improved quality.

Purdue specialists pointed out to us that much training and extension of research could be done by studying one of our produce departments. They offered to make the study and report their findings.

The specialists would help in instituting changes, training personnel, and in general assisting with the transition. Once this new system was established in a "demonstrational store," we would hold meetings to acquaint our other store managers and produce personnel with the new operations.

We agreed to release operating data and make available our demonstrational store for a citywide meeting so that other operators could observe what we had done.

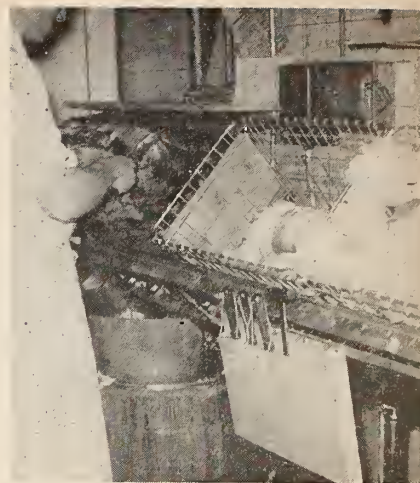
Store Analysis

Extension specialists spent a week in one store, observing and taking detailed notes. They studied customer traffic in the produce area and noted all jobs, such as unloading, storing, trimming, wrapping, and servicing customers.

Saturday morning of that week, chain and store management assembled to hear the report. Specialists documented their report with color slides and customer-flow diagrams, as well as plans for reorganizing coolers and backroom work areas.

This was our top store. But we found ample room for improvement.

Briefly, excessive time and effort were required to buy, receive, store, handle, prepare, package, price, and display produce items. The method of scheduling and using labor worked against sales, quality standard, and labor productivity. Poor practices in



At new trim-wash station, merchandise is positioned on trimveyor at work height. Trimming knives and work baskets are within easy reach of operator.

quality control resulted in off-quality merchandise being sold.

Flow of customers through the produce department was not well planned. So some items and areas were not being shopped.

This report spelled out not only problems but suggestions as well. We agreed to followup on the suggestions 100 percent.

Some of the changes we made were: decreased handling of produce, widened backroom doors to handle larger carts, simplified produce trimming by installing a USDA-developed trimveyor, and moved the bottle return section out of the produce department, thereby increasing customer convenience.

Shared Recommendations

After things were running smoothly in our demonstrational market, we held a meeting of all store managers, department managers, and produce department personnel. At this session, our produce manager, backroom man, and service weigh station clerk described their jobs and demonstrated their work stations to the group.

About six weeks later, we opened our store for a city-wide meeting of all food retailers in the area. This meeting, arranged by the county agent was held after store hours.

(See *Viewpoint*, page 247)

Marketing Research of Other Federal Agencies

by GERALD H. HUFFMAN, *Federal Extension Service*

As in all other fields of extension endeavor, the Cooperative Extension Service works intimately with many other Government agencies in carrying on its marketing educational program. Because of the magnitude of these relationships, this article will only attempt to review the close liaison which Extension maintains with agencies of the Federal Government and their research-related marketing activities.

Agricultural Marketing Service

Extension marketing programs rely heavily on facts and figures from the Agricultural Marketing Service.

This includes information about AMS service and regulatory programs (such as grading, inspection, cotton classing, P & S Act, PACA, Warehouse Act, Marketing Agreements and Orders, and four different types of food distribution programs, among other activities). It includes data from market news, crop and livestock reporting, situation analyses and outlook forecasts. And it includes research findings, which come primarily from four divisions engaged in marketing research. The findings of this research are used by Extension to conduct an effective educational program emphasizing the reduction of marketing costs for the benefit of farmers, consumers, and marketing firms.

Extension uses the research findings of the Market Quality Research Division in educational work with all types of handlers, processors, and other marketing firms concerned with farm product quality. For example, problems associated with insects and diseases in stored produce and temperature tolerance of perishables are of direct concern to this branch.

The phase of Extension's marketing program directed toward helping processors and merchandising firms bring out new products and packaging types acceptable to consumer tastes is based on research findings

of the Marketing Development Research Division. The Marketing Economics Research Division provides Extension with research information on marketing margins, market organizational structures, pricing, and competition.

The Transportation and Facilities Research Division is concerned with ways of reducing labor and other costs at all stages of farm product marketing. Research generated by this unit contributes to the knowledge that Extension uses in its educational work with marketing firms. For example, extension work with meat retailers is strongly supported by research findings of this branch in receiving, blocking, cutting, and cooler room layouts; cutting practices; and wrapping, weighing, and display techniques.

Unquestionably Extension's marketing program receives a large share of its substance from the close working relationship between members of the AMS research staff and extension workers at Federal and State levels.

Agricultural Research Service

Extension is usually thought of as maintaining a close relationship with the Agricultural Research Service, USDA, in connection with efficiency in agricultural production and sound farm management research. ARS is also responsible for farm product utilization research, an important area in the total field of marketing improvement. Most utilization research is being done at regional laboratories in Philadelphia; New Orleans; Albany, Calif.; and Peoria, Ill.

The Federal Extension Service maintains close relationships with these laboratories and transmits the research results to State Extension marketing and other specialists. At present the Federal office has staff members working with three of the

regional laboratories to provide continuous and intimate liaison between the important aspects of utilization research results and the marketing utilization phase of the extension marketing program.

Farmer Cooperative Service

Extension's marketing program benefits from close ties with the Farmer Cooperative Service, USDA, which carries on research on efficiency of operation of farmer cooperatives. Many results of this research have application to all types of firms that handle farm produce or provide farmers with supplies and equipment required to carry on their farming business.

The work of FCS relates to problems of farmers' marketing, purchasing, and related service cooperatives in the fields of management organization policies, merchandising, product quality, costs, transportation, efficiency, financing, and membership. Research results published by FCS are made available to extension specialists for use in their educational programs.

For the past several years, an extension workers' conference on farmer cooperatives has been held immediately preceding the annual meeting of the American Institute of Cooperation. Here FCS staff and cooperative leaders meet with extension specialists to discuss programs, research, and educational needs of farmers on cooperative problems.

Small Business Administration

In recent months the Small Business Administration has been working closely with the Federal Extension Service and North Carolina State College in developing management training units. These are for use of

(See *Marketing Research*, page 244)

New Uses for Farm Products

by G. W. IRVING, JR., Deputy Administrator, Agricultural Research Service

FINDING profitable use for more farm products is the most important agricultural problem of our time. Record-breaking production of almost all agricultural commodities underlines the importance of the Agricultural Research Service program to develop new uses for these commodities.

Utilization research, as this work is usually called, is an organized effort through science and technology to increase present uses for farm products and to develop new uses for them. Research is done to develop new and improved food and feed products, but present emphasis is on industrial uses where greatest opportunities exist for additional large volume markets. Among the commodities that lend themselves best to industrial use are cereal grains, cotton, animal fats, and vegetable oils. All of these are presently produced in quantities that exceed domestic demands.

Serves Entire Economy

Undertaken primarily for the farmer, utilization research serves the entire economy by supplying industrialists with further opportunities for investment, labor with new employment, and consumers with better products and services.

Research is showing that agricultural products contain substances with properties that make them attractive for industrial uses. These substances—oils, carbohydrates, proteins—can compete with nonagricultural raw materials for industrial markets. Utilization research is seeking ways to convert these substances to the widest possible variety of products so that industrial demand for the crops that contain them will increase.

Deciding which of the many ideas proposed for study will be profitable to pursue, from such standpoints as

technical feasibility, economic considerations, and anticipated advantage to agriculture, is a cooperative undertaking.

Groups within and outside the Department help with program planning. Some 25 commodity and functional advisory committees, composed of nongovernment experts, review our programs annually and point out areas needing emphasis. ARS has a product and process evaluation staff which is responsible for continuing studies of commodities, products, and competing raw materials and products. This staff works closely with the Marketing Development Research Division of the Agricultural Marketing Service.

Outside of the Department, we maintain close working relationships with research people in industry and with research committees of the trade associations. These individuals and committees know industrial products and problems. Through them we learn what kinds of products industry is seeking and we are better able to "tailor" agricultural raw materials to meet their requirements.

Extension also plays an important role in utilization research planning. Extension representatives in the utilization research laboratories help keep industry's needs before us. While a primary function of the utilization specialists is to take our results to industry, they also bring back valuable information concerning industry's interests and requirements.

Some Accomplishments

Cooperative efforts between the chemist and the corn breeder have succeeded in developing a new hybrid corn with starch containing 55-60 percent amylose, compared to the ordinary 27 percent amylose. Such things as packaging films, bonding agents for paper, textile fabric finishes, and ingredients of molded plastics can be made from it.

Corn having an amylose content as high as 82 percent has been found and has stimulated research efforts and industrial interest in the potential applications of this new agricultural raw material "tailored" for industry. Full, successful exploitation of high amylose corn may trigger intensive research to breed special properties into other crops that will better fit them for industrial uses.

Other research on corn has developed an inexpensive way of making a new chemical called dialdehyde starch. This is a tanning agent and, if used as a pretan for sole leather, it permits subsequent vegetable tanning operations to be carried out in one week or less instead of the several weeks usually required. Commercial use of dialdehyde starch as a tanning material may not only provide additional markets for corn but could place leather in a better position with plastic competitors.

(See *New Uses*, page 238)



Only the Beginning

by OMER W. HERRMANN, Deputy Administrator, Agricultural Marketing Service

TODAY we see all around us the handiwork of vast technological progress in agriculture and agricultural marketing. We see it on the farms, in transportation, refrigeration, warehousing, processing, packaging, wholesaling, and retailing. And we feel the results in better living.

These things are the fruits of research. It is out of research—in State, Federal, and endowed institutions, and in private industry—that the technology was born which has made possible our explosive expansion in agricultural productivity

in the last 20 years and the accompanying advances in marketing and distribution.

Using new tools and techniques, farmers have boosted their total output by more than 50 percent in the last two decades, using less land and labor. Our food production today is large enough to provide more and better foods for consumers than before World War II—despite our 46 million increase in population. And, of course, a matching expansion in our marketing system has been necessary to move this greatly expanded volume of products from the farmer to the consumer.

Shifting Gears

In marketing, the sheer physical task of handling, storing, processing, and moving these enlarged supplies has required many changes in tools and methods. In today's mass merchandising, prepackaging of convenience foods, advances in refrigeration, rapid transportation, growth of supermarkets—in all these and many other changes we can see how marketing has shifted gears to meet its challenges.

Adjustment is by no means complete. Changes will continue to come as the technology of marketing continues to advance.

In marketing, as in production, research is the mother of technology. Yet, as a people, our interest in marketing research was for a long time secondary and erratic. Only in the last decade have we given it serious and continued attention.

The marketing industry has at times fully used up the backlog of research findings that are our seed stock for continuing future gains. But, through intensification of marketing research work in USDA, the land-grant colleges, and private industry, we are now building and strengthening our research reserve.

And this is our best harbinger of continued future improvements in agricultural marketing.

The present scale of attention to marketing research dates from the Research and Marketing Act of 1946. This law recognized that many of the major and most pressing problems in agriculture lie in the field of marketing and distribution. It defined marketing research and gave it breadth and clarity of purpose. Although important agricultural marketing research was begun as far back as 1901, the 1946 legislation marked the beginning of the first inclusive research in this field.

Research resulting from this program is enabling a modernized attack on agriculture's marketing problems from the farm gate to the consumer.

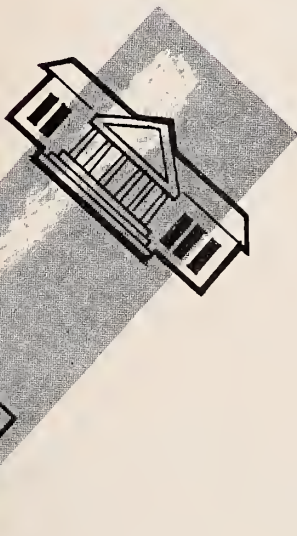
Wide Range of Skills

The marketing research staff of the Agricultural Marketing Service—where most of this work in USDA was centralized in 1953—today embodies a wide range of research talent. Economists, statisticians, and marketing specialists are important members of the team. So are pathologists, physiologists, biologists, bacteriologists, botanists, horticulturists, entomologists, psychologists, chemists, physicists, and engineers.

And the marketing research staffs of State Experiment Stations, Farmer Cooperative Service, Foreign Agricultural Service, Forest Service, and private industry provide similar resources. This adds up to a full range of scientific skills required for a modern "research team" approach to our many complicated problems in marketing improvement.

This work in AMS covers four broad areas. One part, largely in biological science, seeks to reduce waste and spoilage in marketing and to maintain, identify, and measure market quality of agricultural products from the producer to the consumer.

Another is research into the problems of the physical handling of agricultural products after they leave the farm. Here engineering plays a big part. The aim of this group is to develop more efficient facilities, equipment, transportation, storage, marketing.
(See *The Beginning*, page 244)



SCOPE

(Continued from page 227)

perts in industrial management, industrial engineering, chemistry, biology, retail sales management, and many other areas new to Extension.

Marketing is a broad field, probably as broad as all agricultural production. No one person can cover the entire field. The assignment of an individual worker or team of workers must be limited in some way. States are limiting the field of individual workers by commodities, marketing functions, geographic areas, or some combination of these factors.

Highly trained personnel are essential to all phases of Extension, but it is imperative that persons assigned to work with marketing and processing have proper training. Advanced formal training and actual work experience in marketing are current prerequisites for marketing specialists.

The traditional program-building process of determining the problems of each clientele, alternatives for solving these problems, and choosing the best extension methods must be rigorously followed. Establishing priority among various segments of the clientele and the problems of each segment is extremely important because of the large size of the job.

Most assistance to marketing firms will be supplied directly by specialists. The specialists may be assigned to a county, district, or state staff. The location is not important, but a high level of competence in a particular field is vital.

Effective administrative support and leadership are essential for the development of broad, aggressive educational programs in marketing.

Extension's Obligations

Extension is under a firm obligation to carry on educational programs in marketing, utilization, and distribution. This obligation stems from the basic legislation establishing extension work; the traditional role of Extension in the U. S. Department of Agriculture and the land-grant colleges; and the accepted responsibility of Extension to farmers, business firms, and the general public.

While marketing was not mentioned in the Smith-Lever Act of 1914, hearings held prior to its passage leave no doubt that Extension was expected to conduct aggressive marketing programs. Extension's marketing responsibilities were made more specific in the Agricultural Marketing Act of 1946. They were again confirmed by Congress in 1953.

About \$35 million is spent annually by USDA and State Experiment Stations on research in marketing and utilization. Extension has the responsibility for taking results of this research to individuals and firms that can use the information.

Finally, Extension has the responsibility to help solve pressing problems of the day. Certainly there is no more pressing current problem than helping increase the efficiency of marketing.

NEW USES

(Continued from page 236)

Dialdehyde starch has also proved effective experimentally in increasing the wet strength of paper. It appears to have a number of other promising potential applications. And dialdehyde starch is but one of many possible, useful chemicals that can be derived by chemical modification of starch.

Utilization research has modified cotton fiber so that it, too, can enjoy some of the special distinctions of the synthetics without losing its wide general appeal. Resin treatments have been developed that permit cotton clothing to be washed and dried wrinkle-free.

Other treatments have been developed that impart scorch-resistance to cottons, thus extending the life of ironing board covers. Newly developed flame-retardant cottons show great promise of filling the need for cotton work clothing resistant to burning.

These developments have maintained markets for over a million bales of cotton annually. Continued research on chemical-physical modification of cotton may further expand markets for this important crop.

Inedible animal fats, once used for soap, are going into animal feeds and plastics as a result of utilization research. These fats not only in-

crease the nutritional value of feeds but they reduce dustiness.

Softeners for plastics have been developed from animal-fat derivatives. These include one type in commercial production, which protects the flexibility and strength of plastics against sunlight and heat.

New Food Uses

Although primary emphasis is on industrial uses, foods are not neglected in the utilization research program. Dehydrated mashed potatoes—once considered distinctly inferior to the fresh—have now achieved enthusiastic consumer acceptance. This is a result of the improvement of potato granules and development of potato flakes. Wide institutional and home use of these convenient products has helped stem the downward trend of potato consumption.

The food-freezing industry has been greatly helped in maintaining the quality of its products by "time-temperature tolerance" studies. By making processors, distributors, and consumers aware of the effects of even short exposure to higher temperatures, these studies have formed the basis for improvement in processing, shipping, and handling.

Utilization research will continue to seek new ways of converting foods to stable high quality products that can be conveniently transported, stored, and prepared for the table.

A Glance Forward

More than 150 commercialized developments, more than 800 public-service patents, and over 5,000 scientific and technical publications speak for past accomplishments in this program and for the promise that lies ahead. Returns to agriculture from just a few of utilization research's major achievements—advances in cotton technology, food and industrial uses for soybean oil, new uses for animal fats, frozen concentrated orange juice—exceed many times the cost of the program.

A strong, well-balanced utilization program of applied and basic research can generate a steady flow of new uses for the products of our farms that can go far toward relieving today's—and tomorrow's—agricultural surpluses.

MANAGEMENT RATES HIGH

by **GEORGE S. ABSHIER**, *Extension Economist, Marketing, Oklahoma*

EXTENSION has long had an obligation to work with agricultural marketing firms. And the Scope Report specifically defines work with these firms as an area of Extension responsibility.

Recent spectacular developments in technology, organization, and structure of the marketing system call for increased efficiency in marketing farm products. The size, complexity, competition, and nature of work of these firms indicate that improved overall management is essential to increased efficiency and profitable operation.

Oklahoma's Program

Oklahoma extension activities in several commodity areas have recently been pointed toward managerial efficiency and ability.

Grain marketing specialists are involved in several activities intended to improve managerial capacity. One grain dealers' association holds four meetings each year for elevator managers. The marketing specialist discusses with these groups current problems in the grain trade, agricultural policy and laws affecting the grain trade, and the storage situation.

A business management conference for grain elevator managers is held annually at the University. These workshops emphasize the overall managerial job.

Some effective work has been in individual conferences with grain elevator managers to help analyze problems. These problems, for example, may be concerned with whether or not to expand the storage capacity. The specialist supplies facts on volume, trends, competition, etc., and points out the important factors. Then the manager makes his own decision.

Extension marketing personnel have helped organize and conduct short courses and institutes for cooperatives. These have emphasized more and more the overall managerial considerations.

Retailing Efficiency

Work with retail store managers has been mainly on efficiency of operation. But discussing efficiency and pointing out improved methods automatically leads to other managerial considerations.

Activity in this area laid the groundwork for broader study of man-

agement problems. Plans are now underway for a school or clinic for retail store operators which will attempt to improve the overall managerial skill or capacity rather than study individual problem areas.

Recent work with egg handlers revealed possibilities to improve efficiency of operation and management of these firms.

Successful Approach

Work with managers, up to now, has been by commodity endeavor, except for the cooperative short courses and institutes. But, the contract project with North Carolina State College and U. S. Department of Agriculture has already demonstrated that managerial training can be successfully conducted for managers of various sizes, types of organizations, and commodities.

These schools did not attempt to touch on any technical problems such as quality control, grading, or prices. Instead, they emphasized the major functions of management—planning, organization and control, personnel relations, sources of information, and methods of self-improvement.

Elevator managers attending business management conferences rate the subjects on managerial functions higher than some of the technical subjects.

At the outset some people were apprehensive of the reception of business management training. After the

(See *Rating High*, page 246)



Clouds over business without good management are shown on this flannelboard in short course.



The dark clouds are gone with office properly organized and a warehouse of skills and experience.

WHAT, HOW and WHERE

by CLIFTON B. COX, *Extension Economist, Indiana*

INDIANA extension economists long have worked with firms that market agricultural products. This includes work in operational efficiency, pricing efficiency, and market knowledge.

This article discusses the what, how, and where of livestock marketing. It gives examples of evaluating hog purchases at a processing plant, training for market personnel, and evaluating market locations.

Checking Quality

Several years ago we began work with a packer to determine the differences in value of hogs purchased. The packer was buying primarily on a weight schedule basis of pricing.

With the cooperation of the Purdue Experiment Station we evaluated the quality of more than 30,000 hogs purchased from various sources. The results pointed out that although average weight is important, yield, grade, and deviation from the average weight also affect the value of a hog.

For example, some lots of hogs of the same weight varied as much as 11 percent in dressing percentage. Lots of the same weight varied from overly-fat to under-finished. The difference in value of lots of the same weight group was as much as \$2.03 per hundredweight.

Farmers were not being paid for the values being produced but on average values. This certainly did not stimulate production of higher quality pork.



Carcass grading benefits producers, packers.

Working with processors, we set up a procedure to check the quality of the hogs purchased from various markets. Each market was assigned a number which was tattooed on all hogs purchased there. These hogs were killed as a lot and the weight and grade of each carcass recorded.

With this information, the average weight and yield of the lot as well as the deviation in weights were calculated. The head buyer sent a copy of this information back to the market so that the operator would know the hog quality.

Educational work in this area involved personal work with a firm that handles about a half million hogs per year. And other firms now have made similar quality control methods.

Another example of work involves a training program for personnel handling hogs at a central market. Through contacts with the market we learned that salesmen were not aware of many production techniques.

If a central market is to do a good job of selling, personnel must be familiar with production as well as marketing practices. So the departments of animal science and agricultural economics developed a series of meetings on production and marketing.

The production sessions included fundamentals as well as the latest research findings in breeding, feeding management, and hog and carcass evaluation.

The marketing sessions included the competitive structure of livestock

markets, factors determining value of slaughter hogs, and marketing pork as a differentiated product. We evaluated problems of central markets and, at the final session, several changes were proposed.

These included: take grade, yield, and variation of weight into consideration as well as average weight when selling hogs; develop a promotion program for the entire market; cut costs by assigning definite areas to commission firms for new customer solicitation; stop feeding hogs at the market before selling; develop a uniform sorting policy for the market; weigh hogs before selling; consolidate jobs to improve operational efficiency (e.g. have one firm do all the driving); extend the trading time.

Since the sessions were held, a TV program has been started by the market and an advertising program begun by the stockyards company. Through an active program at the central market, competition in the State may be increased and higher prices may be paid to farmers.

Selecting Locations

Numerous questions arise on the feasibility of establishing a market in a particular location. These requests come from packing plant operators, cooperatives, dealers, and groups of farmers.

In answer, we developed a procedure for evaluating locations. This involves estimating the number of animals marketed in a particular area.

For example, within a 5-mile radius of a country market, the operator can expect to get 50 percent of the hogs marketed. Between 20 and 30 miles, the market can expect to get only 2 percent of the marketing. So, with average management, the volume expected in the area can be estimated.

To date, 12 markets have been established after evaluations of locations. And a number of locations have been evaluated as not having sufficient volume for a market.

These examples point out the need for and desirability of doing educational work with marketing firms. The task is great. We are just beginning, but real progress has been shown.



Recipe for Working with

FOREST PRODUCTS FIRMS

by **GEORGE W. SMITH**, *Forest Products Specialist, North Carolina*

RESearch in forest products has been going on for about a million years. It started when prehistoric man emerged from his cave and selected the best available woods for his clubs and bows.

Call it race memory, vestigial instinct, or just good common sense, people generally associate the products of the forest with home, security, pleasure, eternity. People want wood-burning fireplaces, trees in their yard, picket fences, and a stick to whittle. Who does not instinctively stroke the surface of fine wood in furniture or sniff with pleasure the fragrance of pine gum or freshly cut wood? In a word, people like wood.

Today there is much talk in marketing circles about motivational research, subliminal advertising, and so on. The desire for our natural products is inherited and needs no artificial psychological stimulation. Extension workers in wood products should never ignore this. But we should be ever mindful that these products must be continuously and subtly modified so they will meet new needs in new ways in tune with new times.

Variety of Products

The products of the forest, from telephone poles to cellophane, are so numerous that we have to think about them one at a time, or to group them in classes. One classification divides the products into two broad groups: those instantly recognized

as products of the forest, such as Christmas trees and lumber, and those not ordinarily recognized as forest products, such as rayon and vanillin.

Products composed of bits and pieces, fibers, extractives, and derivatives of wood find their way to market in an almost infinite variety of forms. It is difficult to think of these diverse operations as one industry. We think of them as the pulp and paper industry, the particle board industry, hardboard industry, naval stores industry, parts of the chemical industry.

These form a single industry only in the degree to which their operations are integrated back to the forest. The unifying principles are thus the raw materials and integrated organization rather than similarity of product.

Extension's Functions

Now, how can a wood products extension program contribute to the productivity of this processing matrix? We are not sure just what the total answer to such a question might be. But here in North Carolina we believe we are headed in the right direction.

Wood products extension section personnel are assigned on an enterprise basis and each serves a specific industry. The section is broken down in the following enterprises: lumber, furniture, veneer and plywood, pulp and paper, and hardboard and particle board.

Two of the three people in the section are engaged in an educational program with the lumber industry and one is working with the furniture industry. As the need develops, other specialized personnel will be assigned to work in other areas.

We believe strongly in the team approach to industry problems. It is obvious that the technologists who are working in the enterprise areas, no matter how competent, cannot provide all the answers. So we call on specialists in economics, statistics, and chemistry in the solution of a variety of processing problems.

Problems Answered

For example, we were recently asked to help a manufacturer who was having trouble scheduling furniture parts through his machine room. The wood technologists and an economist who specializes in scheduling and allocation visited the plant. They provided the plant management with the information necessary to minimize bottlenecks and speed up production.

Three examples of work being done with wood products marketing and processing firms are: a program with 10 furniture plants to increase yields at the rough mill operation; work with 5 pulp and paper plants to control inventories; and a program to organize lumber producers.

In line with the results of a research project on ways of insuring

(See Forest Products, page 244)

Processing—Major Link in the Chain

by BERNARD A. TWIGG, *Processing Specialist, Maryland*

MORE than 3,000 farmers in Maryland depend on vegetable and fruit crops for all or part of their income. And marketing of these crops is a major concern of both farmers and Extension.

About 78 percent of the vegetables and 50 percent of the fruits grown in Maryland are sold to processors for canning, freezing, and pickling. The farm value of Maryland vegetables processed is approximately \$15 million grown on about 122,000 acres. So the food processing industry plays a major role in the movement of these crops from the farm to the consumer.

In 1954 an extension project was set up to promote improvements in the marketing of processed foods. The overall objective is to expand markets by improving quality, handling and plant efficiency, and merchandising.

Specialists from three agricultural departments, economics, engineering, and horticulture, cooperate in the project. In addition, each department engages in specific functions in its field to improve the competitive marketing position of food processors.

Specialists' Roles

Specialists from the Department of Agricultural Economics and Marketing encourage processors to adopt sound cost accounting techniques. These provide plant executives with current information on costs of processing and distribution and show the need for adjustments and improvements in particular phases of the operation.

Food processors are kept up to date on various merchandising techniques, such as developing a joint sales organization. Research and survey results concerning cost and/or supply of transportation, raw materials, and finished products, as well as other economic information, are provided to the processors.

Agricultural Engineering personnel demonstrate and suggest improved transportation and handling methods. Better designed containers, procedures for stacking containers, and loading and unloading methods and facilities are typical examples.

Engineers also help with equipment selection, plant layout, and coordination of product flow through plants. Technical information on refrigeration, electric motors, and other engineering data is made available.

Horticulturists help promote improvement of product quality and operational efficiency. Examples are increasing the understanding and use of the best vegetable varieties, cultural practices, planting and harvesting schedules, handling methods, grading procedures, utilization and processing techniques, quality control methods, and in-plant sanitation practices.

Educational Methods

Horticultural activities are directed through publications; participation in industry-sponsored meetings; cooperating in workshops, short courses, and special commodity programs; personal visits to processing plants; advising industrial committees; correspondence, telephone calls, press and radio.

Through publications, we are able to transmit up-to-date results of research, other new methods, procedures, and suggestions. The cooperating departments issue a monthly publication, *The Maryland Processors' Report*, to all processing companies and other interested persons. Articles are also published in trade journals and special handbooks prepared for food processors.

Conventions and other industry-sponsored meetings present an excellent opportunity to bring the latest research findings and other information to processors. Opportunities for informal association with individuals

at such meetings also helps gain the confidence of the industry, which in turn paves the way for more effective extension work.

The classroom technique has also proven fruitful for disseminating information to processors. The annual food processors' workshop covers technical problems encountered within the processing plant, such as quality control and sanitation. Project workers also cooperate in presenting a fieldmen's short course on production problems of processing crops. One-day meetings are held from time to time on problems connected with specific commodities.

Personal Touch

Personal visits to plants are necessary to advise on the more technical aspects and to help solve problems that need immediate attention. While working with a canner or freezer in a particular area, other processors in that same area are also visited. Such visits also build the confidence of processors in the extension program.

Food packers associations often have committees to study problems common to a large segment of the industry. Extension specialists serve as technical advisors on several of these committees, thus providing an invaluable service to the food industry.

Many important and urgent problems can be and are solved in a quick and efficient manner by letters or phone calls. And an occasional radio or press release can be valuable for promoting the industry within the State.

This program's effectiveness depends on a sound research program, so experiment station personnel are essential allies. And State and county extension workers also contribute to its success. Research and Extension efforts, backed by industry, have led to a successful program for food processors.



by J. ROBERT STRAIN,
Extension Economist, Iowa

ONE out of four cooperative creameries in Iowa has been or is now involved in creamery consolidation studies conducted by extension workers. Nine groups already have merged.

Years ago, most Iowa farmers kept a few dairy cows. The majority of milk production was marketed as farm-gathered cream. As late as 1940, 90 percent of all Iowa farms had dairy cows and 87 percent of all milk production sold was in the form of farm-gathered cream.

Processing facilities often were local farm-gathered cream cooperatives, established around the turn of the century. Community and ethnic loyalties were established and still persist in the operation of many creameries.

At first, all but the weaker creameries survived rather easily. Most creameries competed only with others of about the same size and economic position. A few plants, both private and cooperative, grew in size and efficiency—often through mergers and consolidations. Today, few Iowa creameries compete only with neighboring ones.

Along with the growth of outside

creameries was a trend toward sale of whole milk rather than farm-gathered cream. Now over half of all farm deliveries are whole milk.

Difficult Decisions

As farmers made this change, economic pressures on local creameries began to pyramid. Boards with patrons wishing to change to milk had two choices, neither attractive.

If these patrons left the co-op in order to sell whole milk, total volume of the plant would decline and unit costs for the remaining output would increase. On the other hand, if the creamery installed milk handling equipment, capital investment and operating costs would increase. Either choice would reduce the competitive position of the creamery.

To offset these disadvantages, the local creamery can solicit patrons of a neighboring creamery. The neighboring creamery, usually in the same position, must retaliate to survive. Such shuffling eventually squeezes out the weaker creameries.

But many creameries can no longer rely upon this slow painful method. They must find a quicker, surer meth-

od of increasing their efficiency. They need to consolidate rapidly into larger, more efficient marketing organizations.

Team Approach

Extension workers knew that decisions of creamery people could be no better than the information on which they were based. So we embarked on an educational program concerning changing economic and marketing conditions and creamery reorganization as a means of adjusting to these changes.

Both economic and technological problems appear in a consolidation proposal. So a team approach is used. A dairy industry and a dairy marketing specialist, as well as the county extension director (or directors) in the area under study, are members of the team.

County directors and the county extension council usually initiate area marketing studies. And some creameries wanting help with the merger have started studies.

First meetings usually cover historical and economic background of changes in and out of the State. They show the effect of these changes on processing techniques, operating costs, and optimum plant size.

Alternative reorganization plans are prepared for creameries that want to study further their opportunities for reorganization. Plans are based on confidential information from the creameries and on available economies of scale research.

The creameries involved initiate action when a suitable plan is agreed upon. Then the extension team reviews consolidation procedures and helps with patron education meetings. These meetings obtain patron reaction to the plan and help minimize rumors. If patrons react favorably, the board begins legal procedure toward a merger or consolidation.

Probably, the basic problem is the unwillingness of creamery operators and their patrons to admit that the organization formed and operated satisfactorily by their forefathers is uneconomical today. Extension's job is to provide up-to-date information.

(See In Step, page 246)

FOREST PRODUCTS

(Continued from page 241)

yields from low-quality lumber, we conducted two seminars for furniture manufacturers. These were followed with plant visits to assist management in adopting the principles turned up through research.

These seminars, plus the plant visits, have resulted in increased yields through better scheduling of cutting through the rough mill, better decisions as to the grade of lumber to use for a particular group of requirements, and better machine operator decisions.

We have also conducted a series of meetings on scheduling of pulpwood procurement. These were strengthened by followup visits to each plant represented to assist them in incorporating recent research findings in operations analysis to their procurement system. This has helped the plants to achieve lower wood costs and a more orderly operation.

Brainstorming Partners

The working relationship between extension specialists and research people in wood products is very close. At least twice a month the two groups meet to "brainstorm" and exchange experiences. Frequently research personnel accompany the extension specialist on plant visits and work with him in assisting plant management in solving production problems.

The flow of ideas from vigorous and aggressive research, followed by individual decisions, is vital to the survival and growth of any extension marketing and processing program. The word "vital" is used deliberately. Despite the intricate and expensive equipment necessary for research, only a man can have ideas. Ideas do not crawl out of complicated machinery; they are the result of a creative mind.

Developing extension techniques appropriate both to available research findings and to industry is a mental act. It is the product of an individual mind, disciplined by knowledge and tempered through experience. Profitable commercial use of the research hinges on the decision to accept or not accept.

These two ingredients, applied

science and technology, coupled with an imaginative extension program, spiced with attractive results, and sweetened with profits for those who accept our recommendations are the recipe of our future success in working with firms.

MARKETING RESEARCH

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State marketing specialists in conducting training schools for the management staffs of agricultural marketing firms.

Management efficiency training for marketing firm executives is a new type of extension educational activity. Representatives of the Small Business Administration are serving in invaluable consultant and teaching capacities in the preparation of program materials, teaching methods, and procedures.

It is expected that this newly developed relationship will continue, with representatives of the Small Business Administration working with State extension specialists in conducting schools for market firm management groups.

Other Agency Relationships

Other agencies and departments of the Federal Government are making significant contributions to extension marketing work. The Food and Drug Administration of the Department of Health, Education and Welfare, in dealing with quality control of the U. S. food supply, has contributed to the thoroughness of the extension marketing program. Representatives of the Department of Labor have been helpful counselors in developing 4-H Club projects in marketing and in the marketing aspects of the Rural Development program.

This review confirms that Extension's educational program in marketing is highly dependent for its scope and depth upon close working relationships with a number of Federal agencies. Many State agencies and private organizations also contribute to a well-balanced extension educational marketing program.

The effectiveness of Extension's marketing program in the future will depend upon maintaining close working relations with these agencies in the years ahead.

THE BEGINNING

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terials, packages, and methods at every stage of marketing operations.

Another part of the research, manned by economists and marketing specialists, deals with changes in the organization and operation of markets, and how these changes affect farmers, marketers, and consumers. It tries to locate the high-cost spots in marketing and provides continuous data on trends in marketing costs and on the share of the consumer's dollar that goes to the farmer and the marketing system.

The fourth part of this research seeks to expand markets for agricultural products. It assists farm and commodity groups through market surveys of consumer preferences and buying habits, conducts market feasibility studies, makes market tests of new and improved products, and measures the effectiveness of promotion and merchandising programs.

Broad View

Altogether, this work aims at widening the markets for farm products, increasing the efficiency of marketing, improving the income position of farmers and ranchers through marketing, and enabling better living for consumers.

The results flowing from it are easy to see—in terms of millions of dollars of savings in marketing costs, the building of new terminal markets, changes in marketing methods, use of new kinds of packing and packaging, better transportation, better storage, and better quality of products reaching the consumer.

The words, *The Past Is Prologue*, appear on the National Archives Building in Washington. When asked the meaning of these words, a taxi driver's quick reply was, "You ain't seen nothing yet." This applies to marketing and to marketing research.

We are by no means through with the revolution in the marketing system. Many changes are being made every day and new ones are in the making. To be of maximum service to agriculture and to the American people, research and extension programs will have a real job to do—especially in the marketing field.



by **ROBERT C. KRAMER**, Program Leader in Marketing, Michigan

MICHIGAN extension workers have been conducting consumer education programs for the past 10 years. This decade can be divided into three distinct periods.

In the late 1940's, a consumer education project was initiated and a home economist and an agricultural economist were employed as extension marketing specialists. This team prepared materials for use by county home demonstration and agricultural agents. They conducted a weekly radio program, distributed scripts and radio tapes to county offices, and pre-

sented food marketing information at local extension meetings.

In 1954 the extension marketing program was expanded. In this second phase, eight consumer information agents were employed. They were located in eight cities geographically distributed so that a majority of consumers in the State could be reached via mass media. These agents were led by a project leader and serviced by a staff housed on the campus.

For the first 2 or 3 years, these consumer information agents were

not directly tied into county extension offices. At the end of the third year, however, each consumer information agent was made a part of the local county extension team. And every home demonstration agent began receiving materials from the nearest consumer marketing information agent.

Decentralization of the consumer program permitted the localization of food marketing information. It also permitted a more accurate reporting of the actual movement of food products into these cities. Trend and general price information were still supplied from the campus, but its use was at the discretion of the consumer marketing information agent.

We are still in the third phase of our experience. There are now consumer marketing information agents working in nine cities. A staff of four State specialists has primary responsibility for supplying materials for their use.

Reaching the Audience

The primary audience of this program is the consumer. The goal is to supply food marketing information which will enable homemakers to better use their family food dollars. But consumer marketing agents and specialists also assist marketing firms and producers.

Radio, television, and newspapers are used extensively. Meetings also serve as a tool to explain the consumer marketing program and how the consumers can be helped by use of this information.

Each consumer information agent has an advisory council to guide her. Serving on these councils are producers, processors, wholesalers, retailers, professional home economists, farmers, media representatives, civic representatives, and consumers.

At present, the consumer marketing information agents are on television over 100 minutes, on radio over 300 minutes each week. They prepare newspaper columns which total over 65 feet each week. These statistics indicate that their information has been well received by the mass media.

But it is not enough to speak of the number of minutes on the air
(See *Two-Way Street*, page 247)

TEAM APPROACH

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team approach. It has enabled Extension to attain a higher level of competence in working with food marketing firms than otherwise would have been possible. Not only can individual technical problems be dealt with successfully, but a program dealing with the efficiency of the entire enterprise can be developed.

The success of a team approach in conducting educational work with the food industry seems to depend upon the following points.

- Formal provision for the organization, direction, and supervision of the team.
- Direct contact between the team and the clientele.
- Agreement on a common goal by members of the team.
- Mutual respect for the ability of team members.
- Objectivity on the part of each team member.
- Fusing the contribution of each member into a unified program or solution which is acceptable to all.
- Social compatibility of the group and tactful leadership.

The successful functioning of a team is not without problems. But the reward for such an effort can be effective use of staff competencies in reaching a desired educational objective.

IN STEP

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The most difficult problem is apathy and inherent resistance to change. Facts may be accepted and a consolidation plan agreed upon, but action may not occur.

Often, non-economic values such as a desire to have a local creamery or to be a board member or officer create resistance to change. The extension team, of course, does not attempt to alter these values. But it does inform the group of the economic loss it will sustain keeping non-economic values.

Resistance sometimes comes from business, religious, and community leaders not officially associated with a local creamery. The county extension

director with his ear to the ground can detect intervention from these sources. Personal contact to present background information appear to work best since members of these groups seldom attend the formal creamery meeting.

Although this type of program does not directly improve selling efficiency, it facilitates processing efficiency. It helps processing units improve their competitive position in a modern milk marketing system.

RATING HIGH

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schools these same people were confident that managers of agricultural marketing firms will enthusiastically attend training schools designed to improve the managerial capacity.

The recent work with egg handlers indicates definite acceptance of extension's efforts. They were surprised that an outsider could come into the plant and see problems which they had overlooked.

Most important has been the reception and adaptation of the recommendations as a result of short study and observation. All the plants have initiated changes recommended by the specialists. Such study of a few plants can provide efficiency guideposts for widespread use in all firms.

Reading the Future

What of the future? Many small agricultural marketing firms do not have or cannot provide the training opportunities for management consistent with the opportunities offered in larger firms. But their managerial job and decisions are as varied and complex. If these small firms are to compete successfully, they must have quality management, too.

Extension can and must provide some assistance in this training. Marketing economists can achieve a large measure of success by organizing and conducting schools, by individual and group conferences, and by emphasizing training in how to make decisions.

A series of training schools will be offered next spring for extension marketing specialists, including subject matter, methodology, and suggested approaches to management work with marketing firms. Success

in this area will require a continuing program of training and improvement for specialists.

The mandate is clear if we accept the challenge of providing an effective educational program with marketing firms. We must learn some new plays—perhaps a whole new game.

AGENT'S ROLE

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have a marketing advisory committee which includes marketing firm representatives.

Recently, a county agent in one metropolitan area and a home agent in another were of valuable assistance in educational programs with retailers. In both instances they participated in the initial store analysis and maintained direct contact with the retail store operator for future followthrough of the program.

To meet Extension's marketing responsibility, we need to raise our sights to a higher degree of specialization and competency than ever before. This may mean some changes in operating procedure. It may mean that the marketing economist or marketing technologist operates on a regional or Statewide basis, making direct contacts with the marketing firm. As we recognize and utilize this direct approach, programs will be strengthened.

But it behooves the specialist to maintain up-to-date communications with county staffs. And county staff members have a responsibility to encourage close communications. After all, the county extension agent is expected to be fully informed by the public in his county—and this includes citizens other than producers.

One reason our organization functions well is because we have people at the grass roots. These grass roots must be broadened to mean the cornerstone, too. Until this is so, there will continue to be a reluctance on the part of management to request assistance through county offices.

County staffs can have a place in marketing programs with firms. Their role may be unlike their role with producer programs. Some county staffs are gearing to meet the challenge of this relatively new program activity.

MIDDLEMEN

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stalled in five markets. One store has increased its produce sales 40 percent since the analysis was made. And inventory control forms designed by the extension specialist have been adopted by the largest markets in the group.

Results at the retail level have led to operational efficiency studies at grocery warehouses. These analyses assist top management in improving warehouse operational efficiency.

General areas included in these studies are: receiving, order selection, and checking and loading out. It takes approximately 3 weeks to complete such a study and the procedure is much the same as used at the retail level.

In marketing efficiency, the five P's—an infantry division slogan in World War II—Prior Planning Prevents Poor Performance, mean money in the pockets—for farmers, retailers, wholesalers, and consumers.

TWO-WAY STREET

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or the number of column inches printed. A conscientious plan has been adopted for evaluating the consumer marketing program in Michigan.

Six studies have been completed on various phases of the consumer program. These have dealt with releases prepared by the agents; the use of marketing information by institutions; consumers' knowledge about grades, standards, and products; and the knowledge which low-income homemakers have about foods, food purchasing, and preparation.

Consumers are not the only ones surveyed about the contributions of this program. Producers, managers of marketing firms, and executives in businesses and trade associations also have been questioned. The goals of the program are not only to inform consumers of farm products available, but also to take to marketing firms and to producers what Mrs. Consumer likes and does not like about the product, the package, or the way the product is made available to her.

The advisory councils enable much of this exchange of marketing information. Guest participation in pro-

grams planned by consumer marketing agents also helps. The normal conduct of the program places the agents in touch with producers, marketing firm managers, and consumers in collecting and disseminating information.

A knowledge about grades contributes to pricing efficiency. Knowing how to handle products and maintain quality reduces waste and spoilage. The cost of introducing new products and new packages is reduced if knowledge of these new introductions is possessed by the trade and consumers.

Marketing information helps to place the right product in the right place at the right time. This can reduce transportation costs and increase sales of the product.

One consumer information agent was asked by the branch manager of a national meat packing company to assist in alerting consumers about the good values available in a red meat product in heavy supply. The agent, through her advisory council and the county extension staff, planned a program to make known the facts on supply, price, and uses of the product. After a concentrated educational program, the manager reported that his branch sold more tonnage of this red meat than any other branch in the nationwide packing company's operation.

Another agent worked with the dairy industry in informing institutional outlets on the low cost but high quality of dairy products in powdered form. The institutional buyers in this consumer marketing agent's city greatly expanded their purchases of these dairy products at a substantial reduction in cost to the institutions and a nice increase in movement of this dairy product.

Daily we see evidences of expanded marketing efforts by our extension workers as they develop well-rounded programs. Our county agents, home demonstration agents, and 4-H Club agents are doing marketing because they have learned from our marketing agents that there are opportunities in this field. Each county extension program can well include marketing for a well-rounded program. This is an educational service which is well received by producers, marketing firms, and consumers.

VIEWPOINT

(Continued from page 234)

Again, our employees told the story and demonstrated their equipment.

The Purdue Retailer carried information regarding the customer flow idea to other stores. The folks at Purdue tell us that this has spread all over the State and helped other food retailers to adopt new and improved methods of handling fresh fruit and vegetables.

What does all this mean to us? At one store, increased productivity cut operating costs about \$2,750 a year. And our other produce department managers are champing at the bit to have their departments systematized.

We instituted inventory control in all stores, increasing gross profit by 2 percent. Without inventory control, we would have had to boost sales by \$750,000 per year to get the same results.

Food retailing is a fast moving, changing industry. To keep abreast, we must be alert to these changes. Through our cooperative efforts with Extension, we are convinced that we can work smarter, not harder, and keep up with progress.

Monthly Revisions in Publications Inventory

The following new titles should be added to the Annual Inventory List of USDA Popular Publications. Bulletins that have been replaced should be discarded. Bulk supplies of publications may be obtained under the procedure set up by your publications distribution officer.

- F 2058 Sheep Raising on the Farm—Reprint
 - F 2139 Hard Red Spring and Durum Wheats—Culture and Varieties—New (Replaces F 1902)
 - L 324 Soil Treatment an Aid in Termite Control—Revised Sept. 1959
- The following are discontinued but county offices may use any copies they have on hand. The titles should be removed from the inventory list as USDA supplies are exhausted.
- F 1412 Care and Management of Dairy Bulls
 - F 1567 Propagation of Trees and Shrubs
 - F 1872 House Plants
 - F 2079 Farm Methods of Cooling Milk

Grain Marketing Program

Reaping Educational Dividends

by WERNER L. BECHER, Van Wert County 4-H Agent, Ohio

WE work with both grain producers and marketing firms in our county educational program. Grain marketing begins at the farm, then moves through the elevator and into the hands of processors. We find that we need to work with both producers and firms if we are to achieve the best results.

When we started marketing work with firms, we already had an agronomy committee which helped plan our grain production and farm marketing activities. Seeing the need for an advisory committee with grain marketing firms, we organized a committee of elevator operators. These two committees help us to develop a better overall program.

Defining Goals

In working with marketing firms, the first job is to get acquainted with firm personnel and show them how Extension can help them build a better business. This also gives an opportunity to clarify farmer-agent-marketing firm relationships. This is important because there can be complications if the total program is not well defined and understood.

Then we go about working with marketing firms much as we would with producers. Our objective is edu-

cation and we show a keen interest in helping firms improve their business.

Sensing dissatisfaction and misunderstanding over moisture meter readings, we developed a program with the grain marketing committee to conduct a moisture meter test.

With the help of the State grain marketing specialist, we carried out a meter survey using five corn samples which the federal grain inspector had already tested for moisture. Fourteen different elevators then tested these samples and reported their readings. The results showed variations—some due to the operator's reading, some due to inaccurate meters.

Following the analyses, we met with county elevator operators and discussed the survey. A few elevators replaced old meters. Others had their meters tested annually.

We also suggested that testing equipment be placed where farmers can watch the testing operation. This makes a better relationship between farmers and elevator operators and helps build confidence in each other.

This year elevator operators and farmers were faced with an unusual problem due to winter killing of wheat. Many farmers sowed the poorer areas of wheat fields to oats. The agent, grain marketing specialist, and elevator advisory committee ar-

ranged a breakfast meeting to discuss the harvesting problem.

It was suggested that the county extension service and grain elevators encourage separate harvesting of the two crops. Newspaper and radio publicity was released and most farmers harvested their grain in the recommended manner. As a result, farmers received a greater dollar rate and elevator operators had less handling and fewer storage problems.

Keeping Up

Each week we release a grain marketing article to the county newspaper. It includes a summary of local elevator quotations, condition of grain coming out of storage, future prices, brief notes about county problems, feed stuff information, and hints for grain handlers and producers to improve their operations. The newspaper editor says this review brings a local summary to the readers' level and it is a highly welcomed feature on the farm page.

Today, our marketing firms look upon the county agent as one who helps them as well as farmers. The county agent is in a consulting position and has an educational role with both producers and marketing firms. And this program is reaping dividends for all concerned.